

WHAT IS CLAIMED IS:

1. An apparatus for a vehicle for protection of a colliding object comprising:
one of a collision prediction module which delivers a precautionary
5 signal when the collision prediction module predicts a collision of the vehicle
with the object and an collision detection module which delivers a collision
signal when the collision detection module detects the collision;

an air bag which deploys on either a hood of the vehicle or an outside of
a windshield thereof when the collision is either predicted by the collision
10 prediction module or detected by the collision detection module;

a camera for taking a forward image of the vehicle; and

a monitor disposed in a cabin of the vehicle,

wherein the monitor displays the image taken by the camera when the
monitor receives one of the precautionary signal and the collision signal.

15 2. An apparatus according to claim 1 wherein the monitor comprises a
head-up display unit which projects the image taken by the camera on the
windshield.

20 3. An apparatus according to claim 1 wherein the collision prediction
module employs image processing.

4. An apparatus according to claim 3 wherein one of an object sensor and
an infrared camera is used for the image processing.

25 5. An apparatus according to claim 1 wherein the collision detection module

comprises one of an impulsive force detector and an accelerometer.

6. An apparatus according to claim 1 wherein the camera comprises an infrared camera.

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7. An apparatus for a vehicle for protection of a colliding object comprising:
one of a collision prediction module which delivers a precautionary
signal when the collision prediction module predicts a collision of the vehicle
with the object and an collision detection module which delivers a collision
10 signal when the collision detection module detects the collision;

an air bag which deploys on an outside of a windshield of the vehicle
when the collision is either predicted by the collision prediction module or
detected by the collision detection module;

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a hood skin which the deployed air bag elevates so that the hood skin
can perform the protection of the colliding object in collaboration with the air
bag;

a camera for taking a forward image of the vehicle; and

a monitor disposed in a cabin of the vehicle,

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wherein the monitor displays the image taken by the camera when the
monitor receives one of the precautionary signal and the collision signal.